

**ABSTRACT OF THE DISCLOSURE**

A system for detecting unauthorised use of a network is provided with a pattern matching engine for searching attack signatures into data packets, and with a response analysis engine for detecting response signatures into data packets sent back from an attacked network/computer. When a suspect signature has been detected into a packet, the system enters an alarm status starting a monitoring process on the packets sent back from the potentially attacked network/computer. An alarm is generated only in case the analysis of the response packets produces as well a positive result. Such intrusion detection system is much less prone to false positives and misdiagnosis than a conventional pattern matching intrusion detection system.